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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,476	04/20/2001	Avery Li-Chun Wang	SHZ-101	2473

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EXAMINER
MCFADDEN, SUSAN IRIS

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 April 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-124* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-124* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>02 April 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claims 1-124 are objected to because of the following informalities:

"Fingerprints" are not a correct term of art for features in an audio sample. "Voiceprints"

should be used. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 107-111 are rejected under 35 U.S.C. 102(b) as being anticipated by Gill

et al. (4,415,767).

In regard to claims 107-111, Kanevesky et al. show a method of characterizing

an audio sample, comprising computing at least one voiceprint from a spectrogram (col.

1, In 22) of said audio sample, wherein said spectrogram comprises an anchor salient

point and linked salient points, and wherein said voiceprint is computed from frequency

coordinates of said anchor salient point and at least one linked salient point (col. 17, In

3-25), which fall within a target Zone, which can be a variable time or frequency range

(col. 18, In 55-60).

4.   Claims 1-17,35-37,50-52,54,60-80,92,93,103-106, and 116-120 are rejected

under 35 U.S.C. 102(e) as being anticipated by Kanevesky et al (6,434,520).

In regard to claims 1,35,36,50,51,52,54,55,62,92,93, and 103-104, Kanevesky et

al. show a system, program storage device, and method for comparing a media sample

and a media file, comprising: computing a set of sample voiceprints (claimed

fingerprints, each sample voiceprint characterizing a particular location within said

media sample, obtaining a set of file voiceprints, each file voiceprint characterizing at

least one file location within said media file; generating correspondences of values

exceeding a threshold between said particular locations of said media sample and said

file locations of said media file, wherein corresponding locations have equivalent

voiceprints; and identifying said media sample and said media file if a plurality of said

corresponding locations are substantially linearly related (audio indexing system, col 3,

Fig. 1, items 101,102, 103, 104, 105,106), in a distributed system or client device (col.

2).

In regard to claims 60 and 61, Kanevesky et al. show a method for characterizing

an audio sample, comprising: computing a set of reproducible locations in said audio

sample; and computing a set of voiceprints characterizing said reproducible locations in

said audio sample, which are computed simultaneously (col. 3).

In regard to claim 63, Kanevesky et al. show a system for recognizing a media

sample, comprising: a landmarking and voiceprinting object for computing a set of

particular locations within said media sample and a set of sample voiceprints, each

sample voiceprint characterizing one of said particular locations ; a database index

containing file locations and corresponding file fingerprints for at least one media file; and an analysis object for: locating a set of matching fingerprints in said database index, wherein said matching voiceprints are equivalent to said sample voiceprints; generating correspondences between said particular locations of said media sample and file locations of said at least one media file, wherein corresponding locations have equivalent voiceprints; and identifying at least one media file for which a plurality of said corresponding locations are substantially linearly related (audio indexing system, col 3, Fig. 1, items 101,102, 103, 104, 105,106).

In regard to claims 64-65, Kanevesky et al. show a computer-implemented method for creating a database index of at least one audio file in a database, comprising: computing a set of voiceprints representing features of each audio file, each voiceprint characterizing a particular location within said audio file; and storing within a memory said voiceprints, said locations, and an identifier of each media file, wherein each corresponding fingerprint, location and identifier is associated in said memory, which can be sorted by voiceprint value or Cepstral features (audio indexing system, col 3, Fig. 1, items 101,102, 103, 104, 105,106, Abstract).

In regard to claims 2 and 66, Kanevesky et al. show that particular locations within said media or audio sample are computed in dependence on said media or audio sample (col. 3, ln 24-29).

In regard to claims 3 and 67, Kanevesky et al. show that each sample voiceprint represents one or more features of said media sample near said particular location (col. 3, changes in speaker, channel, or background).

In regard to claims 4 and 68, Kanevesky et al. show that said sample voiceprints and said file fingerprints have numerical values (clustered, means, variances, and counts, col. 4).

In regard to claims 5 and 69, Kanevesky et al. show values of said sample voiceprints specify a method for computing said sample voiceprints (suitable algorithms are picked, col. 4).

In regard to claim 6, Kanevesky et al. show the media sample is an audio sample (audio data, col. 3).

In regard to claims 7,70, and 106, Kanevesky et al. show that particular locations are timepoints within said audio sample (start time, end time, col. 3).

In regard to claims 8 and 71, Kanevesky et al. show that timepoints occur at local maxima of spectral Lp norms of said audio sample (col. 5, feature vectors).

In regard to claims 9,72, and 105, Kanevesky et al. show that sample voiceprints are computed from a frequency analysis of said audio sample (cols 4-5, feature vectors, clustering, means).

In regard to claims 10,11,12,73,74, and 116, Kanevesky et al. show sample voiceprints are selected from the group consisting of spectral slice voiceprints, LPC coefficients, and cepstral coefficients (Gaussian distributions, col. 4, In 35-37), which inherently can be used to compute a spectrogram.

In regard to claims 13-15,17,75-78,80, and 117-120, Kanevesky et al. show linking a plurality of said salient points to an anchor salient point, wherein one of said particular locations is computed from a time coordinate of said anchor salient point, and

a corresponding fingerprint is computed from frequency coordinates of at least one of

said linked salient points and said anchor point (start time, end time, col. 3), which fall

within a target zone, defined by a time range, which can be variable, which are

inherently used to compute voiceprints (claimed fingerprints).

In regard to claims 16 and 79, Kanevesky et al. show the target zone is defined

by a frequency range (col. 3, feature extraction locations).

In regard to claim 37, Kanevesky et al. show selecting a winning media file from

said identified media files, wherein said winning media file has a largest plurality of

substantially linearly related corresponding locations (Abstract, query having one or

more desired parameters matching).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 18-34,38-49,53,56-59,81-91,94-102, and 121-124 are rejected under 35

U.S.C. 103(a) as being unpatentable over Kanvesky et al.(cited above).

In regard to claims 18-34, 81-91, and 121-124, Kanevesky et al. show the

method and system discussed above. Kanevesky et al. do not specifically show that

time-invariant voiceprints and other features of a voiceprint can be calculated using

different offsets. The Examiner takes Official Notice that one of ordinary skill in the art

would know that various features could be computed from frequency information. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add these features because they provide the system with more flexibility and customization.

In regard to claims 38-49 and 94-102, Kanevesky et al. show the method and system above. They do not specifically show that there is a first and second subset of said additional media files that have various probabilities, which can be ranked. The Examiner takes Official Notice that one of ordinary skill in the art would know that various files could be added depending on the users preferences. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add these features because they provide the system with more flexibility and customization.

In regard to claims 53 and 56-59, Kanevesky et al. show the method and system above. They do not specifically show that there is a rolling buffer used. The Examiner takes Official Notice that one of ordinary skill in the art would know that rolling buffers could be added to any processing system depending on the users preferences. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature because it provides the system with more flexibility and makes it faster.

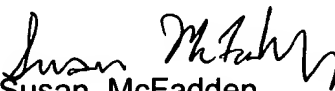7.   Claims 112-115 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gill et al.(cited above).

In regard to claims 112-115, Gill et al. show the method and system discussed above. Gill et al. do not specifically show that time-invariant voiceprints and other features of a voiceprint can be calculated using different offsets. The Examiner takes Official Notice that one of ordinary skill in the art would know that various features could be computed from frequency information. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add these features because they provide the system with more flexibility and customization.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan McFadden whose telephone number is 571-272-7621. The examiner can normally be reached on Monday-Friday, 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Susan McFadden
Primary Examiner
Art Unit 2655

March 8, 2005